

Compliance Assessment Report CAR_NRW0041215

Permit being assessed: YP3930EX.

For: Pembroke Refinery, held by Valero Energy Ltd

At: Valero Energy Ltd , Pembroke Refinery, Pembroke, Pembrokeshire, SA71 5SJ.

Type of assessment carried out: Report/Data Review, Reason: Routine.

On 31/12/2022.

Parts of permit assessed: Monitoring Information

NRW Lead Officer: Gary Evans.

Report sent to: Andrew Waterman, Manager Environmental Engineering on 17/02/2023.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	Assessed (A)	
G2 - Monitoring and Records, Maintenance and Reporting - Records of activity, site diary/journal/events	Assessed (A)	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	Assessed (A)	
E1 - Emissions - Air	C3 Minor (Suspended)	3.1.2

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
1	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
E1	Improvement Plan until April 2022	Already completed

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

Introduction

This Compliance Assessment Report (CAR) is a written record of permit notifications in 2022 (Part A and Part B Notifications). Natural Resources Wales (NRW) were formally notified (Part A notification as required by permit conditions) of the following permit breaches.

The following breaches in January and February are suspended based on an agreed action plan by NRW as detailed in CAR_NRW0039434

Investigation plan and improvement plan on FCCU Dust releases by 30th April 2022
During this period Valero have been implementing improvements as detailed within the subsequent Part B Notifications

Permit Notification January 2022

Date and time of monitoring - 01 January 2022 – 31 January 2022
Emission point reference/ source – A5A (FCCU Catalyst Regenerator)
Limits - Dust - 50mg/Nm³ (monthly average) continuous monitoring
Results - Dust – 61.9mg/Nm³ CCS Score 3 (Suspended)

Permit Notification February 2022

Date and time of monitoring - 01 February 2022 – 28 February 2022
Emission point reference/ source – A5A (FCCU Catalyst Regenerator)
Limits - Dust - 50mg/Nm³ (monthly average) continuous monitoring
Results - Dust – 57.1mg/Nm³ CCS Score 3 (Suspended)

Measures taken, or intended to be taken, to stop the emission: -

Valero Energy Limited have investigated the issue and has outlined in the April Part B Notification:

The March Monthly FCCU(A5A) average was on specification at 41.9mg/Nm³ against the limit of 50mg/Nm³. Improved dust results have been sustained in April with an average of 39.8mg/Nm³. The dust figures for March and April are positive, however the investigations and monitoring continue to support sustainable results.

The improvement in FCCU dust is believed to be a combination of factors including:

- Catalyst reformulation – Whilst the third stage separator is understood to be operating at high efficiency, subject matter experts indicate that it is being subject to a high inlet loading. To assist this matter, Pembroke have commenced a catalyst reformulation (April 2022). The intention of the reformulation is to increase the particle density of the catalyst and reduce the propensity for catalyst to be entrained into the 3rd Stage Separator. The reformulation also targets improved attrition resistance properties. The refinery anticipates a 25% catalyst change by July 2022. The catalyst reformulation has been supported through the management of change process.
- Continual optimisation of operating variables within their allowable operating envelope (e.g. Regenerator Excess Oxygen, regenerator bed level, Reactor stripper bed level).

- A review of steam sources into the FCCU catalyst circuit has been completed. Steam sources such as reactor stripping steams and base steam continue to be optimised on a daily basis. Aeration steam pipework has been upgraded with new steam traps and condensate routings to prevent any potential condensate from entering the catalyst circuit (which would give rise to catalyst attrition).
- A QAL2 calibration of CEMS (A5A) was completed on the 15th of February 2022, with a new QAL2 calibration function generated. Retrospective application of the new calibration function back to the 15th of Feb 22 yields an average of 52.6mg/Nm³ compared with the 57.1mg/Nm³ previously reported on the 15th of March 2022.

Conclusion

Valero continue with ongoing investigations and next steps to understand and improve the dust emission to ensure a stable emission profile below consented limits.

It is concluded that the above permit breaches have been suspended by NRW due to an action plan being in place until April 2022. Any further exceedances will have to continue to be reported to NRW in line with permitted requirements.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):

A: Permitted activities

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.